What is the need of modulation in the analog communication system.

Need of Modulation

1. To translate the frequency of a low-pass signal to a higher band so that the spectrum of the transmitted bandpass signal matches the bandpass characteristics of the channel.
2. For efficient transmission, it has been found that the antenna dimension has to be of the same order of magnitude as the wavelength of the signal being transmitted.
3. Since C= f for a typical low-frequency signal of 2 kHz, the wavelength works out to be 150 km. Even assuming the height of the Antenna half the wavelength, the height works out to be 75 km, which is impracticable.
4. To enable transmission of a signal from several message sources simultaneously through a single channel employing frequency division multiplexing.
5. To improve noise and interference immunity in transmission over a noisy channel by expanding the bandwidth of the transmitted signal.